XXXIX.—*Hybrids of* Gennæus *from Natural and Artificial Crosses showing similar Pattern and Intergrading.* By Mrs. Rose Haig Thomas, M.B.O.U.

In a paper entitled "A Revision of the Genus *Gennæus*" (Journal of the Bombay Natural History Society, xxiii. 1915, p. 658), Mr. Stuart Baker draws attention to a continuous natural hybridization taking place between *G. horsfieldi* of Assam, the "Black Kalij," and *G. nycthemerus*, the Silver Pheasant, inhabiting the neighbouring Northern Shan States, and to its geographical distribution over those countries and Burma, Tenasserim, and Siam. Convinced of the hybrid nature of many specimens the author reduces the number of subspecies to simpler figures; he points out the large number of birds shot within the triangle containing Assam, Northern Shan States, and Tenasserim, which, though given the rank of subspecies, are undoubtedly hybrids, and further states that round every area in which these subspecies (discontinuous hybrids) are found, a zone of unnamed intermediates exists, and that, where the differing forms of *Gennæus* "*horsfieldi*" and "*nycthemerus*" are close neighbours and "the physical geographical change abrupt," the hybrid intermediates are so numerous and so infinitely graded that none deserve sub-specific rank. The geneticist might consider these to be F. 1 in constant generation by continuous intercrossing and the few fixed discontinuous hybrids (subspecies) either F. 2 or F. 3 *inter se*, or cross-backs. At any rate, Mr. Stuart Baker's interesting investigations call attention to an extensive district where natural intercrossing between two widely differing species of a genus is occurring and evolving, either by loss of, or linkage of, or by re-combination of factors, new forms, some of them constant and heritable.

To whatever cause the author may attribute the variations of these new forms, he abandons the task of separating the numerous intergrades, and classifies only the fixed forms as subspecies. The interest of Mr. Stuart Baker's revision has been much increased by the issue of a paper in 'Genetics' (vol. vi. July 1921, pp. 366–383) by Mr. J. C.

Phillips, of Wenham, Mass., U.S.A., on some of his hybridizing experiments, a copy of which the author has kindly sent me. Among other crosses he describes one made between "*Gennæus melanotus*," which he names "the Black Kalij," and *Gennæus nycthemerus*, the Silver Pheasant, the latter used as male parent: the cross was made in 1915. Eight F. 2 males were reared and kept until the second year, when they assumed adult plumage; they were then killed for specimens; the backs only of five birds are shown in illustration, all males, *G. nycthemerus*, *G. melanotus*, one F. 1 and two F. 2, these latter showing the extremes of the variants towards *G. nycthemerus* and *G. melanotus*. F. 1 seems to be identical with *G. lineatus* (Shan States, Burma and Siam), with rank of a species; whilst F. 2, the nearest variant to *nycthemerus*, with a long tail, resembles very closely *G. rufipes* (Ruby mines, Burma), ranking as subspecies from the natural *horsfieldi-nycthemerus* intercrossing, the other F. 2 appears, and is stated in the text to be, very similar to *G. melanotus*, though some vermiculation is traceable on the feathers. Specimens of *G. lineatus*, *rufipes*, and *melanotus* are in the Natural History Museum at South Kensington. In the Catalogue of Birds, vol. xxii., where *G. melanotus* is placed under *G. muthura* (=*melanotus*), the breast-feathers of the male *muthura* are described as "dirty white and lanceolate," which is accurate for the Museum specimens. Evidently, like most of the Pheasant family, the species varies, for on one skin the blue-black of the upper parts is invaded by a narrow line of white on some of the wing-coverts. It is a matter for regret that Mr. Phillips did not illustrate the breasts of his males, for one is left a little doubtful as to the species used. *G. horsfieldi* is the true Black Kalij: the underparts are black, the only white occurring are narrow marginal lines across the rump and tail-coverts. Mr. Phillips's paper errs in that his statement is not full enough; a cross such as he made between *white upper parts*, *black underparts*, and *long tail*, *G. nycthemerus*, and *black upper parts*, *isabelline white underparts*, and *short tail*, *G. melanotus*, must have produced graded underparts fully as interesting as the segregation of the tail and upper parts.

The specimens of the females *horsfieldi* and *muthura* (= *melanotus*) in the Natural History Museum are alike in pattern and general coloration; the pale margins of the breast-feathers distinguish them from the breast of the female *nycthemerus*, which in the typical form has a distinct white pattern on a dark ground. We must remember *G. melanotus* was the female parent in Mr. Phillips's experiment.

A few weeks ago Mr. Phillips was in this country and examined the Museum specimens in the Bird Room of *G. horsfieldi* and *G. muthura* (= *melanotus*) to ascertain which species he had used, but neither seemed to recall his own specimen, and he returned to America in doubt; it has been suggested that to solve the doubt he might send over his skins to the Museum for examination.

Since writing the above I have received the following letter from Mr. Phillips, in which he acknowledges that he made a mistake in identification :—

"The bird which I used in my crosses was certainly the straight *melanotus*. I compared my old stock with specimens in the Museum of Comparative Zoology in Cambridge at the time and they checked up entirely. I looked at the Museum of Comparative Zoology specimens again to-day, and they are like the ones you showed me in London, black on whole upper side, but not black on breast. It was my mistake; it should have read 'whole upper surface black.' I am glad you called my attention to it."

"Sincerely yours,

"June 19, 1922. "John C. Phillips."

XL.—*A Note on Acquired or Somatic Variations.*

By Percy R. Lowe.

Mr. Witherby in 'The Ibis' for April 1922, p. 331 *et seq.*, expressed himself as unconvinced of the soundness of my contention (Ibis, 1922, p. 185) to the effect that the distinctive darker coloration of the Bermudan Goldfinch would not be inherited but would be re-acquired in each generation.